



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 10/654,789 | 09/04/2003 | Shen-Ling Allen Wang | G00343/US | 5500 |
| 35758 | 7590 | 08/13/2004 | | EXAMINER |
| GKN DRIVELINE NORTH AMERICA, INC 3300 UNIVERSITY DRIVE AUBURN HILLS, MI 48326 | | | DUNWOODY, AARON M | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 3679 | |

DATE MAILED: 08/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | |
|------------------------------|-----------------|--------------|
| Office Action Summary | Application No. | Applicant(s) |
| | 10/654,789 | WANG ET AL. |
| Examiner | Art Unit | |
| Aaron M Dunwoody | 3679 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 15 June 2004.

2a) This action is FINAL. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1,2,4-10,12-14 and 16-21 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) Claim(s) _____ is/are allowed.

6) Claim(s) 1,2,4-10,12-14 and 16-21 is/are rejected.

7) Claim(s) _____ is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on 04 June 2004 is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some * c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) Notice of References Cited (PTO-892)

2) Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.

4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.

5) Notice of Informal Patent Application (PTO-152)

6) Other: _____.

DETAILED ACTION

Drawings

The drawings were received on 6/4/2004. These drawings are approved.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 4 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 4 recites the limitation "said second sealing bead" in line 1. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 5-10, 14 and 18-21 are rejected under 35 U.S.C. 102(b) as being anticipated by US patent 6093108, Moulinet.

In regards to claim 1, Moulinet discloses a boot (17) for use on a vehicle joint, the boot comprising:

a body;

a first end of the body having a tubular shapes; and

a second end of the body having a sealing area(see Figure 2 below), the sealing area having at least sealing bead located on an end surface (top end surface) of the sealing area for sealing the joint.

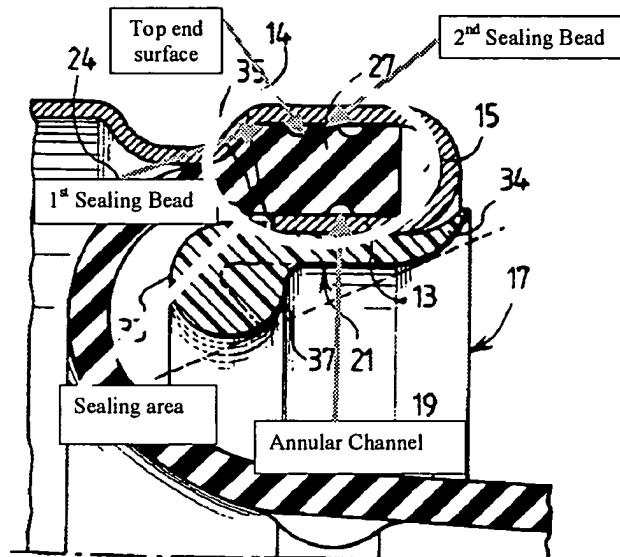


FIG. 2

In regards to claim 2, Moulinet discloses the sealing area having a second sealing bead (see Figure 2 above).

In regards to claim 5, Moulinet discloses an annular channel on an inside surface of the sealing area.

In regards to claim 6, Moulinet discloses the boot being made of a flexible material.

In regards to claim 7, Moulinet discloses the flexible material being a thermoplastic.

In regards to claim 8, Moulinet discloses a constant velocity joint assembly for a vehicle, the assembly comprising:

- a shaft;
- a first joint part (5) connected to the shaft;
- a second joint part (3) cooperable with the first joint part to transmit torque therebetween,
- a boot having a first end contacting the shaft and a second end associated with the second joint part, the second end having a sealing area including at least one sealing bead located on an end surface of the sealing area; and
- a boot cover (11) having a first end affixable to the second joint part and a second end affixable to the second end of the boot.

In regards to claim 9, Moulinet discloses the boot cover being affixable to the second end of the boot by a crimping operation on the at least one sealing bead.

In regards to claim 10, Moulinet discloses the sealing area of the second end of the boot having a second sealing bead.

In regards to claim 14, Moulinet discloses a joint assembly, the assembly including:

- a shaft;
- a first joint part connected to the shaft;
- a second joint part cooperable with the first joint part to transmit torque therebetween;

a boot having a first end contacting the shaft and a second end associated with the second joint part, the second end having a sealing area including a plurality of sealing beads wherein at least one of the plurality of sealing beads is located on an end surface of the sealing area; and

a boot cover having a first end and a second end, the first end of the boot cover affixable to the second joint part and the second end of the boot cover affixable to the second end of the boot by a crimping operation between the plurality of sealing boots and the second end of the boot cover.

In regards to claim 18, Moulinet discloses a boot for use between a shaft and a joint, the boot comprising:

a first end contacting the shaft; and

a second end having a sealing area, the sealing area having a plurality of sealing beads wherein one of the sealing beads is located on an end surface of the sealing area, the second end being affixable to the joint by performing a crimping operation between the sealing beads and the joint.

In regards to claim 19, Moulinet discloses a method for connecting a first and second joint part of a constant velocity joint, the method (col. 2, line 54 through col. 4, line 65) comprising the steps of:

providing a boot having a first end affixable to a shaft and a second end associated with the second joint part, the second end having a sealing area including at least one sealing bead located on an end surface of the sealing area;

providing a boot cover having a first end and a second end;

affixing the first end of the boot cover to the second joint part; and affixing the second end of the boot cover to the second end of the boot by performing a crimping operation on the at least one sealing bead.

In regards to claim 20, Moulinet discloses the sealing area of the second end of the boot having a first and second sealing bead.

In regards to claim 21, Moulinet discloses a method for connecting first and second joint parts of a constant velocity joint, the method including the steps of:

providing a boot having a first end affixable to a shaft and a second end associated with the second joint part, the second end having a sealing area including a plurality of sealing beads wherein at least one of the sealing beads is located on an end surface of the sealing area;

providing a boot cover having a first end and a second end;
affixing the first end of the boot cover to the second joint part; and
affixing the second end of the boot cover to the second end of the boot by performing a crimping operation on the plurality of sealing beads.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 4, 12, 13, 16 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moulinet.

In regards to claims 4, 12 and 16, Moulinet discloses the claimed invention except for the second sealing bead being located approximately 90° from the sealing bead. It would have been obvious to one having ordinary skill in the art at the time the invention was made to locate the second sealing bead approximately 90° from the sealing bead, since it has been held that rearranging parts of an invention involves only routine skill in the art. *In re Japikse*, 86 USPQ 70.

In regards to claims 13 and 17, Moulinet discloses an annular channel on an inside surface of the sealing area.

Response to Arguments

Applicant's arguments filed 6/4/2004 have been fully considered but they are not persuasive. The Applicant argues:

The Moulinet patent fails to teach each limitation of the claimed invention. Specifically, the Moulinet patent fails to teach the novel limitation of at least one sealing bead located on an end surface of a sealing area. Instead, the Moulinet patent teaches two grooves or channels on a top surface of a sealing area, but fails to teach any beads located on the end surface of the sealing area.

The Examiner disagrees. Merriam-Webster's Collegiate Dictionary, 10th ed., states:

¹**bead**: 5: a projecting rim, band, or molding.

Therefore, the Moulinet patent teaches the novel limitation of at least one sealing bead located on an end surface of a sealing area.

The Applicant argue:

Additionally, regarding claims 4, 12 and 16, after reviewing the Moulinet patent it would not be obvious to one skilled in the art to position the second sealing bead approximately 90° from the first sealing bead. The can in the Moulinet patent does not contact the end surface...having the can contact both the end surface and the top surface of the sealing area of the boot generates a more effective seal. It is desirable to have a sealing bead positioned on each contact surface to produce an effective seal. Accordingly, the second sealing bead is located approximately 90° from the first sealing bead.

The Examiner disagrees. It would not be obvious to one skilled in the art to position the second sealing bead approximately 90° from the first sealing bead. US patents 4304416, Oshima, 3490343, Afanador et al, or 4224808, Gehrke all illustrate the positioning of a second sealing bead approximately 90° from the first sealing bead. The Applicant supports this obvious modification when stating:

...having the can contact...the boot generates a more effective seal. It is desirable to have a sealing bead positioned on each contact surface to produce an effective seal. Accordingly, the second sealing bead is located approximately 90° from the first sealing bead.

Therefore, it would not be obvious to one skilled in the art to position the second sealing bead approximately 90° from the first sealing bead, and the claim limitations are met.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

Art Unit: 3679

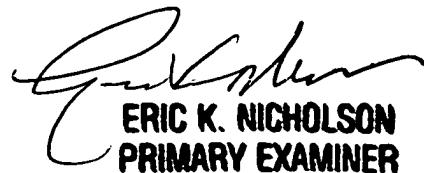
TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aaron M Dunwoody whose telephone number is 703-306-3436. The examiner can normally be reached on 7:30 am - 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel P Stodola can be reached on 703-306-5771. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

.amd (JM)



ERIC K. NICHOLSON
PRIMARY EXAMINER